NRO-xxx-11

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Northern Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Aerojet Corporation (Aerojet)
Orange County, Virginia
Permit No. FSO40743

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Aerojet Corporation has applied for a Title V Operating Permit for its rocket motor and solid propellant manufacturing facility located in Orange County, Virginia. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____ Date: DRAFT, 2011
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Air Permits Manager:_____ Date: DRAFT, 2011
Terry H. Darton

FACILITY INFORMATION

Permittee
Aerojet Corporation
7499 Pine Stake Road
Culpeper, Virginia 22701

Facility
Aerojet Corporation
Orange County Facility
7499 Pine Stake Road
Culpeper, Virginia 22701

Facility ID No. 51-137-0022

SOURCE DESCRIPTION

NAICS Codes: 336415, 336399, 332999 - Manufacture, research and development (R&D), and testing of rocket motors and associated components, including propellant, and propellants for automobile air bag systems. The facility periodically test fires and open burns propellants on-site.

Aerojet Corporation (Aerojet), formerly Atlantic Research Corporation (ARC), owns and operates the Orange County facility. The company manufactures solid rocket motors, missile systems, and similar products, as well as their associated propellants, for the United States Department of Defense (DOD). The propellants, also known as "energetic materials" are utilized in the on-site production operations, and are also commercially distributed as finished products. Aerojet also performs R&D activities for the aforementioned products. In addition, R&D activities involving the propellants for automobile air bag systems are also conducted on-site. Aerojet's manufacturing and R&D activities include the static test firing of rocket motors and other components.

As a result of the manufacturing operations, various scrap propellants and other waste energetic materials are generated. These reactive hazardous wastes are destroyed by open burning in the permitted Thermal Treatment Facility (TTF). On January 7, 1987, Aerojet's TTF was granted a RCRA Research, Development and Demonstration (RD&D) permit by EPA Region III for operation as a hazardous waste treatment facility. The permit became effective upon approval by EPA Region III of the Operation Monitoring Plan in August 1990. The RD&D Permit was transferred from ARC to Aerojet in October 2003.

The facility is a Title V major source of PM-10 and hazardous air pollutants (HAPs). The facility's potential-to-emit exceeds ten tons per year for an individual HAP and more than twenty-five tons per year of any combination of HAPs. This source is located in an area presently classified as an attainment area for all pollutants, and is a PSD minor source. Aerojet's Orange County facility currently operates under a minor new source review (MNSR) permit that was issued on July 14, 2011 (copy enclosed as Attachment A). Aerojet is subject to the National Emission Standards for Aerospace Manufacturing and Rework Facilities (40 Code of Federal Regulations (CFR) Part §63, Subpart GG), hereinafter referred to as the Aerospace MACT (Maximum Achievable Control Technology Standards). In addition, Aerojet is subject to the National Emissions Standards (NESHAP) for Halogenated Solvent Cleaning (40 CFR §63, Subpart T).

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. The most recent inspection occurred on April 7, 2011. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, were evaluated for compliance. Based upon these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The significant emission units/processes at this facility consist of the following:

Unit Ref. No.	Stack ID. No.	Process Name	Equipment Manufacturer & Construction Date	Maximum Rated Capacity	Pollution Control Device & Pollutant Controlled
EU-01(A)	None - Fugitive Emissions	Rocket Test Facility	ARC 1988 & 2004 [a]	2,000 lb/hr of propellant	None
EU-01(B)	None - Fugitive Emissions	Thermal Treatment Facility	ARC 1988 [a]	10,000 lb/hr of propellant	None
EU-02	Fugitive Emissions	Facility-Wide Surface Coating and Adhesive Application Operations – Hand Painting	ARC, Aerojet 1989, 2004 [a]	8 gal/hr of coatings and adhesives	None
EU-02	PB-1 & PB-2	Spray Paint Booths	Aerojet 2005 & 2011 [a]	Same as Above	Dry Particulate Filter for PM Control
EU-03	None - Fugitive Emissions	Facility-Wide Hand-Wipe and Other Cleaning Operations	ARC 1989, 2004 [a]	1 gal/hr of solvents	None
EU-04	None - Fugitive Emissions	Explosives Drying	Stokes Equipment 1989 [a]	500 lb/hr of explosives	None
EU-05	None - Fugitive Emissions	Solvent Cleaning Machines	Ultra Kool & Phillips Degreasers 2005	1 gal/hr of solvents	None
EU-06	None - Fugitive Emissions	Sparging Operations	Aerojet 2004	10lb/hr of solvents	None
EU-07	OX-1 OX-2	Oxidizer Grinding Operations [b]	Various Manufacturers 2004	500 lb/hr of oxidizers	Dry Particulate Filter Systems
EU-08	GB-1, GB-2, GB-3	Grit Blast Machines [c]	Various Manufacturers 2004	200 lb/hr of grit-blasting media	Dry Particulate Filter Systems

Unit Ref. No.	Stack ID. No.	Process Name	Equipment Manufacturer & Construction Date	Maximum Rated Capacity	Pollution Control Device & Pollutant Controlled
EU-09	PM-1	Propellant Machining Operations [d]	Various Manufacturers 1989, 2004	250 lb/hr of propellant	Particulate Collection Systems
EU-10	IM-1	Insulation Machining Operations	Various Manufacturers 1989, 2004	25 lb/hr of insulated components	Dry Particulate Filter System
EU-11	RM-1	Phenolic and Rubber Parts Machining Operations	Various Manufacturers 2004	100 lb/hr of phenolic and rubber parts	Dry Particulate Filter System

Notes:
a. EPA first proposed the Aerospace MACT on 06/06/94; construction/reconstruction of sources commenced after such date are considered "new sources" under this MACT.
b. Two of the oxidizer units are not vented to the atmosphere.
c. One of the grit blast machines is vented inside the production building.
d. Propellant lathes (existing and new) are not vented to the atmosphere. New propellant saw is vented. Wet suppression is used for propellant saw.

EMISSIONS INVENTORY

A copy of Aerojet's calendar year 2010 emission statement is attached as Attachment B. The estimated criteria pollutant and hazardous air pollutant emissions obtained from the facility's monthly compliance tracking spreadsheet are summarized in the following tables.

July 2010 Rolling Twelve-Month Total Annual Criteria Pollutant Emissions (tons/yr)					
Emission Unit	PM/PM_{10}	NO_x	CO	VOCs	SO_2
EU-01(A) & (B)	0.4	0.04	0.24	0.02	0.00
EU-02	N/A	N/A	N/A	0.23	N/A
EU-03	N/A	N/A	N/A	0.16	N/A
EU-04	N/A	N/A	N/A	0.34	N/A
EU-05	N/A	N/A	N/A	0.00	N/A
EU-06	N/A	N/A	N/A	0.00	N/A
EU-07	Not Required	N/A	N/A	N/A	N/A
EU-08	Not Required	N/A	N/A	N/A	N/A
EU-09	Not Required	N/A	N/A	N/A	N/A
EU-10	Not Required	N/A	N/A	N/A	N/A
EU-11	Not Required	N/A	N/A	N/A	N/A
Total	0.4	0.04	0.24	0.75	0.00

July 2010 Rolling Twelve-Month Total Annual Hazardous Air Pollutant Emissions (tons/yr)						
Emission Unit	HCl	Lead	Chlorine	Cadmium	Chromium	HF
EU-01(A) & (B)	0.25	0.01	0.02	0.00	0.01	0.02

SECTION III. - PROCESS EQUIPMENT REQUIREMENTS: Rocket Test Facility [EU-01(A)] and Thermal Treatment Facility [EU-01(B)]

Limitations

The following applicable operational limitations are from Conditions 17, 18, 19, 20, 21, 24, 25, 28, 29 and 30 of the July 14, 2011 MNSR Permit No. 40743. These limitations were set in the current permit for the purpose of satisfying state Best Achievable Control Technology (BACT) requirements and state toxics rules (state enforceable only program).

Condition 17: Except as specified in Conditions 18 and 21, limits the quantity of propellant fired per test firing event at the rocket test facility [EU-01(A)] to no more than 2,000 pounds. Limits the quantity of propellant test fired at the rocket test facility to no more than 2,000 pounds in any one 24-hour period. Limits the annual quantity of solid propellant fired at the rocket test facility to no more than 4.8 tons per year.

Condition 18: Limits the quantity of worst-case lead-based propellant fired at the rocket test facility [EU-01(A)] to no more than 700 pounds per test firing event and per 24-hour period.

Condition 19: Except as specified in Conditions 20 and 21, limits the quantity of waste propellants/explosives combusted per open burning event and per 24-hour period at the thermal treatment facility [EU-01(B)] to no more than 10,000 pounds. Limits the annual quantity of waste propellants/explosives combusted at the thermal treatment facility to no more than 240 tons per year.

Condition 20: Limits the quantity of worst-case lead-based propellant combusted per open burning event at the thermal treatment facility [EU-01(B)] to no more than 1000 pounds. Limits the quantity of worst-case hydrogen chloride-generating waste propellant combusted per open burning event at the thermal treatment facility [EU-01(B)] to no more than 6,000 pounds.

Condition 21: Limits the quantity of propellant fired at the rocket test facility to no more than 500 pounds and the quantity of waste propellant combusted at the thermal treatment facility to no more than 9,500 pounds, when a test firing event(s) at the rocket test facility and an open burning event at the thermal treatment facility occur within the same 24 hour period.

Condition 24: Limits the type and quantity of supplemental fuel used during the rocket test firing events to liquefied propane at no more than 7,500 gallons per year.

Condition 25: Limits the type and quantity of catalyst fuel used during the open burning events to diesel fuel at no more than 5,000 gallons per year.

Condition 28: Limits pollutant emissions from the combined operation of the rocket test facility and the thermal treatment facility to the following:

Particulate Matter (PM & PM_{10})		119.4 tons/year
Nitrogen Oxides (Total NOx)		5.9 tons/year
Sulfur Dioxides		0.03 tons/year
Carbon Monoxide (CO)		3.8 tons/year
Volatile Organic Compounds (VOCs)		6.1 tons/year
Lead	33.3 lbs/hr[a]	4.8 tons/year
Hydrogen Chloride	1915.0 lbs/hr[a]	54.3 tons/year
Chlorine	194.4 lbs/hr[a]	4.0 tons/year
Cadmium	0.7 lbs/hr[a]	0.01 tons/year
Chromium (Total)	12.8 lbs/hr[a]	0.24 tons/year
Hydrogen Fluoride	14.6 lbs/hr[a]	0.32 tons/year

[a] hourly average

Condition 29: Limits pollutant emissions from the operation of the rocket test facility to the following:

Particulate Matter (PM & PM10)	714 lbs/hr

Condition 30: Requires shutdown of the rocket test facility and the thermal treatment facility, upon request by the DEQ, if there is a failure of the process that causes an emissions increase above those established permit emission limits. The process shall not return to operation until the malfunction is corrected.

The following Virginia Administrative Code(s) that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-5620 A: No open burning of refuse or use of special incineration devices except as provided in 9 VAC 5-40-5630 (permissible open burning).

9 VAC 5-40-5620 E: No disposal of waste by open burning or transportation of waste to be disposed of by open burning shall take place in violation of the regulations of the Virginia Waste Management Board.

9 VAC 5-40-5630 (1): Lists permissible open burning which includes the destruction of deteriorated or unused explosives and munitions on government or private property when other means of disposal are not available.

The visible emission standard (9 VAC 5-50-80) is not applicable to the Rocket Test Facility (RTF). On October 21, 2002, the Department issued a variance (9 VAC 5-220) from the opacity standard for the test facility. The variance was subsequently transferred from ARC to Aerojet upon the change of ownership of the Orange County facility.

Furthermore, the visible emission standard (9 VAC 5-50-80) is not applicable to the Thermal Treatment Facility (TTF). This source operates in accordance with the emission standards for permissible open burning (9 VAC 5-40-5630). This regulation does not include a visible emission standard.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 40 of the MNSR permit have been modified to meet Part 70 requirements.

The permittee will monitor the time, date, and quantity (specified in pounds) of propellant fired per testing event at the Rocket Test Facility (RTF) [EU-01(A)] to demonstrate compliance with the event and daily limits of propellant fired at the source. For compliance demonstration with the annual solid propellant limit fired at the RTF, monthly and consecutive twelve-month sums of the solid propellant fired will be monitored, calculated and recorded. Additionally, the permittee will monitor and record the monthly and consecutive twelve-month quantities of liquefied propane used as supplemental fuel at the RTF to demonstrate compliance with the annual propane limits.

Similar to the monitoring and recordkeeping for the RTF, the permittee will monitor and record the same type of data to demonstrate compliance with the limits applicable to the Thermal Treatment Facility (TTF) [EU-01(B)]. Additionally, the permittee will monitor and record the monthly and consecutive twelve-month quantities of diesel fuel used as catalyst fuel in the TTF to demonstrate compliance with the annual catalyst fuel limits.

Criteria and hazardous air pollutant limit violations should not occur from the quantity of propellant authorized by the permit and the use of emission factors agreed upon by the DEQ. Based on the various types of propellant currently manufactured (as well as additional solid rocket propellants considered for future operations), the emissions of various chemicals per pound of propellant burned are estimated by using an existing Aerojet (formerly ARC) program, Equilibrium Thermochemistry Computer Code (EQTCH), which calculates chemical equilibria in complex systems and determines chemical product composition, heat generation and the amount of gases and solids evolved. The EQTCH model is derived from the Naval Weapons Center Propellant Evaluation Program (PEP), which is well validated as an accurate and reliable method for predicting combustion product emissions.

To demonstrate compliance with the emission limits, the permittee will derive emission factors and use them in conjunction with the recorded quantities of propellant combusted to calculate hourly and/or annual emissions rates for HAPs and annual emission rates for all pollutants listed in Condition III.A.8. The use of a propellant that does not conform to the parameters of the thermochemical modeling may necessitate an amendment to the permit. It should be noted that no permitted open burning event will generally last more than five minutes.

Opacity monitoring at the RTF is not required for compliance with the visible emission standard (9 VAC 5-50-80) since the DEQ has issued an opacity variance for the test facility. Furthermore, opacity monitoring at the TTF is not required because the standards for permissible open burning (9 VAC 5-40-5630) do not include a visible emission standard.

Testing

The permit does not require source tests. The DEQ is not aware of any test method (EPA approved or otherwise) that could be employed to determine compliance with the emission limits set for the RTF and the TTF operations.

Reporting

Other than facility-wide semi-annual monitoring reports and an annual compliance certification report, there are no emission unit specific reporting requirements for the RTF [EU-01(A)] or the TTF [EU-01(B)]. The permittee is required to notify the DEQ whenever operation of the TTF is not performed in accordance with the regulations of the Virginia Waste Management Board.

SECTION IV. - PROCESS EQUIPMENT REQUIREMENTS: Facility-Wide Surface Coating and Adhesive Application Operations [EU-02]

Limitations

The following applicable process and operational limitations are from Conditions 3, 4, 7, 8, 9 ,11, 24, 27 and 33 of the July 14, 2011 MNSR Permit No. 40743. These limitations were set in the current permit for the purpose of satisfying the applicable Aerospace MACT requirements as well as state BACT requirements. A copy of the Aerospace MACT (including Table 1 to Subpart GG) will be included as part of the permittee's final Title V Operating Permit.

Condition 3: The coatings (i.e., adhesives, adhesive primers, other primers and topcoats) shall meet the criteria of specialty coatings provided in 40 CFR 63.742 or comply with the standards for primer and top-coat application operations of 40 CFR 63.745. Currently, the coatings that the facility uses are considered specialty coatings, and are exempt from control requirements under the Aerospace MACT.

Condition 4: The spray gun cleaning operations shall be conducted in accordance with the NESHAP requirements by employing one of the techniques specified in §63.744(c)(2) through (c)(4) for non-atomized cleaning, disassembled gun cleaning and/or atomizing cleaning, respectively. This condition reiterates the requirements of the Aerospace MACT.

Condition 7: Volatile organic compound (VOC) and VOC-hazardous air pollutant (HAP) emissions shall be controlled by the handling and transfer of primers and topcoats to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills. For the purposes of this condition and according to the Aerospace MACT, coatings that are defined as specialty coatings are not subject to this requirement.

Condition 8: This condition reiterates the requirements of the Aerospace MACT. The dry particulate filter system on the spray paint booth [EU-02] shall be operated in accordance with the manufacturer's instructions. If non-specialty coatings are applied in the paint booth, then the equipment shall be operated in accordance with 40 CFR §63.745(g).

Condition 9: VOC and VOC-HAP emissions from the spray gun cleaning operations shall be controlled by employing one of the techniques specified in §63.744(c)(2) through (c)(4) for non-atomized cleaning, disassembled gun cleaning and/or atomizing cleaning, respectively. (Spray gun cleaning operations using cleaning solvent solutions that contain HAPs and VOCs below the de minimis levels specified in §63.741(f) are exempt from these requirements.)

Condition 11: Fugitive VOC emissions are controlled by following certain work practices.
Condition 24: Limits the material throughput in the surface coating and adhesive application

operations to the values listed below, calculated monthly as the sum of the each consecutive twelve-month period:

a.	surface coatings	4,500 pounds/year
b.	adhesives	4,500 pounds/year
c.	miscellaneous coatings	750 pounds/year

Condition 27: Limits VOC emissions to no more than 5.3 tons per year calculated as the sum of each consecutive twelve-month period.

Condition 33: Except where the MNSR permit is more restrictive than the applicable requirement, the surface coating operations shall be operated in compliance with the Aerospace MACT (This includes Table 1 to Subpart GG--General Provisions (Subpart A) Applicability to Subpart GG.) This condition does not apply to the surface coating and adhesive bonding operations as long as specialty coatings are the only type coatings used in such operations.

The following Virginia Administrative Code(s) that have specific emission requirements have been determined to be applicable:

9 VAC 5-50-80: Limits the visible emissions to no greater than twenty percent opacity, except for one six-minute period in any one hour of not more than thirty percent opacity.

Since Aerojet currently uses specialty coatings in its coating operations, there are no specific emission requirements under the Aerospace MACT that have been determined to be applicable. The permit does direct that the provisions of §63.745 will apply if coatings other than specialty coatings are used.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 40 of the MNSR permit have been modified to meet Part 70 requirements.

The permittee will monitor and record on a monthly basis surface coating usage to demonstrate compliance with the annual throughput limitations. The permittee will maintain a Material Safety Data Sheet (MSDS) for each surface coating and adhesive. Also, the permittee will maintain the "super" paint, adhesive and miscellaneous coating formulations

Should the facility add any new non-exempt coatings (as allowed under the MNSR permit and the Aerospace MACT), then the permittee shall comply with the applicable Aerospace MACT requirements for monitoring (§63.751) and recordkeeping (§63.752).

Weekly visible emission inspections of the exhaust for the spray paint booth are required when the source is operating to demonstrate compliance with the visible emission standard (9 VAC 5-50-80).

For the spray gun cleaning operations, no monitoring is required for compliance with the visible

emission standard (9 VAC 5-50-80) since these activities will not result in visible emissions. The equipment is cleaned using one of the techniques (non-atomized cleaning, disassembled gun cleaning and/or atomizing cleaning) specified in §63.744(c)(2) through (c)(4).

In addition, there are no monitoring requirements specified in the Aerospace MACT for the three potential techniques for spray gun cleaning (non-atomized cleaning, disassembled gun cleaning and/or atomizing cleaning) used on-site.

Testing

Based on the present plant configuration, the permit does not require source tests. EPA Reference Method 24 (Surface Coatings) of 40 CFR Part 60, Appendix A has been specified in the permit if testing is performed on the surface coatings to determine VOC content. Should the facility add any new non-exempt coatings, the permittee shall comply with the applicable Aerospace MACT requirements for test methods and procedures under 40 CFR §63.750. The DEQ and the EPA have the authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The permittee must submit facility wide semi-annual monitoring reports and an annual compliance certification report.

Condition 37(b) of the MNSR Permit requires notification to the DEQ if any of the coatings used in the surface coating operations do not meet the criteria of *specialty coatings* provided in 40 CFR §63.742.

Condition 42 of the MNSR Permit reiterates the requirements of 40 CFR §63.753(c), which specifies the submission of semiannual reports occurring every six months from the date of the notification of compliance status that contain the information specified in 40 CFR §63.753(c) for any primer and topcoat application operations that utilize non-specialty coatings, where applicable. In accordance with the Aerospace NESHAP, the semi-annual reports shall be submitted by May 1 and November 1 of every year for the respective reporting periods of September 1 through February 28 (29) and March 1 through August 31.

In addition, per Condition 42 of the MNSR Permit and the Aerospace MACT, the permittee will monitor and record any time when a non-compliant spray gun cleaning method is used.

Condition 43 of the MNSR Permit reiterates the requirements of 40 CFR §63.743(a)(10) and 40 CFR §63.5(b)(4). The permittee shall notify the EPA and DEQ of construction of the spray paint booth [EU-02]. This one-time notification shall be submitted on or before March 1 of the appropriate year for the preceding calendar year. The notice shall contain the information specified in 40 CFR §63.5(b)(4), except that such information shall be limited to inorganic HAPs.

SECTION V. - EMISSION UNIT APPLICABLE REQUIREMENTS: Facility-Wide

Hand-Wipe and Other Cleaning [EU-03]

Limitations

The following applicable process and operational limitations are from Conditions 2, 6, 11, 16, 27 and 33 of the July 14, 2011 MNSR Permit No. 40743. These limitations were set in the current permit for the purpose of satisfying the applicable Aerospace MACT requirements as well as state BACT requirements. For conditions in the proposed Title V permit that contain requirements based solely on the Aerospace MACT, it is specified that such conditions are only applicable to solvent hand-wipe cleaning operations conducted in the manufacture or rework of aerospace vehicles or components, as defined by 40 CFR §63.742.

Condition 2: The solvent hand-wipe cleaning operations shall meet the criteria of *exempt cleaning operations* as defined under 40 CFR §63.744 (e) or comply with the hand-wipe cleaning requirements of 40 CFR §63.744 (b). Aerojet has certified that its current hand-wipe cleaning operations (cleaning and surface activation prior to adhesive bonding under 40 §CFR 63.744(e)(3)) are considered *exempt cleaning operations* per the Aerospace MACT.

Condition 6: This condition reiterates the requirements of 40 CFR §63.744(a), which requires the following:

(a) Place cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning in bags or other closed containers upon completing their use. Ensure that these bags and containers are kept closed at all times except when depositing or removing these materials from the container. Use bags and containers of such design so as to contain the vapors of the cleaning solvent. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement.

(b) Store fresh and spent cleaning solvents, except semi-aqueous solvent cleaners, used in aerospace cleaning operations in closed containers.

(c) Conduct the handling and transfer of cleaning solvents to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent cleaning solvents in such a manner that minimizes spills.

Condition 11: Fugitive VOC emissions are controlled by following certain work practices.

Condition 16: The solvent consumption for the hand-wipe cleaning operations shall not exceed 12.2 tons per year, calculated monthly as the sum of the previous consecutive twelve months.

Condition 27: Limits VOC emissions to no more than 10.0 tons per year calculated as the sum of each consecutive twelve-month period.

Condition 33: Except where the MNSR permit is more restrictive than the applicable requirement, the hand-wipe cleaning and spray gun cleaning activities shall be conducted in compliance with the Aerospace MACT (This includes Table 1 to Subpart GG--General Provisions (Subpart A) Applicability to Subpart GG.)

The visible emission standard (9 VAC 5-50-80) is not applicable to the hand-wipe cleaning

operations since these activities will not result in visible emissions. The solvents are manually applied to various parts using wiping cloths and cotton swabs. The components are then allowed to air-dry. In addition, it should also be noted that the standards in Subpart GG do not include opacity standards.

The following standards from the Aerospace MACT specifically apply to the *exempt cleaning operations*:

> §63.744(a): Housekeeping measures - These are the same requirements specified under Condition 7 of the July 14, 2011 MNSR Permit No. 40743.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 40 of the MNSR permit have been modified to meet Part 70 requirements. Additionally, specific recordkeeping requirements under the Aerospace MACT are provided. It should be noted that there are no monitoring requirements for hand-wipe cleaning specified in the Aerospace MACT.

Aerojet's current hand-wipe cleaning operations (cleaning and surface activation prior to adhesive bonding under 40 §CFR 63.744(e)(3)) are considered *exempt cleaning operations* per the Aerospace MACT. Should the facility add any non-exempt hand-wipe cleaning activities in the future, the Aerojet will be required to comply with all applicable control and other requirements under the Aerospace MACT.

The Aerospace MACT does not specify recordkeeping requirements for the housekeeping measures under §63.744(a). Compliance with these requirements will be determined from fact finding of the status of the facility instituting and carrying out the housekeeping measures. Furthermore, it was not the intent of the Aerospace MACT to require a startup, shutdown and malfunction plan (SSMP) for cleaning. The SSMPs required under the General Provisions (40 CFR 63, Subpart A) are only effective where excess emissions may occur. However, under §63.752, the following information shall be recorded for each cleaning solvent used for the exempt hand-wipe cleaning operations that does not conform to the vapor pressure or composition requirements of §63.744(b):

(a) The identity and amount (in gallons) of each cleaning solvent used each month at each operation; and

(b) A list of the processes set forth in §63.744(e) to which the cleaning operation applies.

To accomplish this end, the permittee shall maintain a Material Safety Data Sheet (MSDS) for all cleaning solvents used in hand-wipe operations. The permittee will monitor and record on a monthly basis the solvent consumption for the hand-wipe cleaning operations, and calculate monthly and annual VOC emissions to demonstrate compliance with the annual solvent consumption limit and VOC emission limitation. It should be noted that not all the solvents (or specific components of the solvents) used are regulated as VOCs (e.g., 1,1,1-trichloroethane). However, compliance with the solvent consumption limit will guarantee compliance with the VOC emission limit.

Should the facility engage in solvent hand-wipe cleaning operations that are not considered

exempt cleaning operations under §63.744(e), (as allowed under the MNSR permit and the Aerospace MACT), then the permittee shall comply with the applicable Aerospace MACT requirements for recordkeeping (§63.752).

There is no monitoring required for compliance with the visible emission standard in 9 VAC 5-50-80 since the cleaning operations will not result in visible emissions.

Testing

Based on the present plant configuration (i.e., having *exempt cleaning operations*), the Aerospace MACT and the permit do not require source emission tests. Because the cleaning takes place throughout the facility, any reference method testing would prove futile in determining compliance with the annual VOC emission standard.

To determine whether each cleaning solvent used for the exempt hand-wipe cleaning operations does or does not conform (for purposes of reporting only) to the vapor pressure or composition requirements of §63.744(b), the test methods and procedures under §63.750 (a) and (b) shall be used. Composition determination is accomplished by using data supplied by the manufacturer of the cleaning solvent. The data shall identify all components of the cleaning solvent. Vapor pressure for single-component hand-wipe cleaning solvents shall be determined using MSDS or other manufacturer's data, standard engineering reference texts, or other equivalent methods. Composite vapor pressure of a blended hand-wipe solvent shall be determined under §63.750(b)(2).

Should the facility engage in solvent hand-wipe cleaning operations that are not considered *exempt cleaning operations* under §63.744(e), (as allowed under the MNSR permit and the Aerospace MACT), the permittee shall use the test methods and procedures of §63.750 for solvent composition determination and vapor pressure determination.

Reporting

In addition to facility-wide semi-annual monitoring reports and an annual compliance certification report, Condition 37(a) of the July 14, 2011 MNSR Permit requires notification to the DEQ if the facility engages in solvent hand-wipe cleaning operations that are not considered *exempt cleaning operations* as specified in 40 CFR §63.744(e).

Whether the facility's hand-wipe cleaning operations are exempt or not, Condition 40 of the July 14, 2011 MNSR Permit repeats 40 CFR §63.753(b)(1)(i, ii and v) which specifies semiannual reports occurring every six months from the date of the notification of compliance status that identify the following, as applicable:

(a) Any instance where a noncompliant cleaning solvent is used for a non-exempt hand-wipe cleaning operation;

(b) A list of any new cleaning solvents used for hand-wipe cleaning in the previous 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in §63.744(b)(1) and;
(c) A statement that the hand-wipe cleaning operations have been in compliance for the semi-

annual period, if the operations have been in compliance for the semi-annual period.

In accordance with the Aerospace MACT, the semi-annual reports shall be submitted by May 1 and November 1 of every year for the respective reporting periods of September 1 through February 28 (29) and March 1 through August 31.

SECTION VI. - EMISSION UNIT APPLICABLE REQUIREMENTS: Explosives Drying [EU-04]

Limitations

The following applicable process and operational limitations are from Conditions 15 and 27 of the July 14, 2011 MNSR Permit No. 40743. These limitations were set in the MNSR permit for the purpose of satisfying state BACT requirements.

Condition 15: Limits the amount of explosives dried to no more than 60 tons per year.

Condition 27: Limits the VOC emissions from explosives drying to no more than 2.7 tons per year.

The visible emission standard (9 VAC 5-50-80) is not applicable to the explosives drying operation since this process will not result in visible emissions. The solvent-wet energetic materials are dried in a steam-heated rotary vacuum dryer. The vacuum pump exhaust is routed through a condenser unit before being vented to the atmosphere.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 40 of the MNSR permit have been modified to meet Part 70 requirements.

Monthly records of the quantity of explosives dried will be required to ensure that the annual limit is not exceeded. To help ensure that the annual VOC emissions limit is not exceeded, the permittee will be required to maintain an MSDS for each explosive. The permittee will monitor the annual VOC emissions by calculating and recording on a monthly basis, the VOC emissions due to evaporation of the isopropyl alcohol.

There is no monitoring required for compliance with the visible emission standard (9 VAC 5-50-80) since the drying operation will not result in visible emissions.

Testing

The permit does not require source tests. EPA Reference Methods 25 and 25A have been included in the permit as acceptable test methods if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard. However, since there is only an annual emission limit for this process, stack testing results would have to be combined with other information (i.e., percent isopropyl alcohol and monthly process data on explosives) in order to determine compliance with the permit emission limit.

Reporting

There is no emission unit specific reporting for explosives drying.

SECTION VII. - EMISSION UNIT APPLICABLE REQUIREMENTS: Solvent Cleaning Machines [EU-05]

Limitations

The following applicable process and operational limitations are from Conditions 5, 10, 11 and 27 of the July 14, 2011 MNSR Permit No. 40743. These limitations were set in the current permit for the purpose of satisfying the applicable NESHAP for Halogenated Solvent Cleaning requirements as well as state BACT requirements.

The solvent cleaning machines were relocated from a plant in Gainesville, Virginia to the Orange County facility. It is important to note that, per §63.461, the two solvent cleaning machines qualify as existing (rather than new) units since they were in operation prior to the compliance deadline of November 29, 1993. (The definition of existing unit states that "a solvent cleaning machine moved to another facility under the same ownership constitutes an existing machine.")

Condition 5: The solvent cleaning machines shall be operated in compliance with the NESHAP for Halogenated Solvent Cleaning.

Condition 10: This condition reiterates the NESHAP requirements for each vapor degreaser:

(a) maintaining a log of solvent additions and deletions;

(b) ensuring that the emissions from the solvent cleaning machine are equal to or less than 150 kilograms per square meter per month (30.7 pounds per square foot per month), as a three-month rolling average value; and

(c) demonstrating compliance with the three-month rolling average emission limit on a monthly basis as specified in §63.465(b) and (c).

Condition 11: Fugitive VOC emissions are controlled by following certain work practices.

Condition 27: Limits the amount of solvent processed in the solvent cleaning machines to more than 2.9 tons per year.

Condition 27: Limits the VOC emissions from the solvent cleaning machines to no more than 2.9 tons per year.

The visible emission standard (9 VAC 5-50-80) is not applicable to the solvent cleaning machines since the equipment will not result in visible emissions. In addition, per Appendix B to Subpart T, the NESHAP for Halogenated Solvent Cleaning does not require compliance with an opacity or visible emission standard.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 40 of the MNSR permit have been modified to meet Part 70 requirements. Additionally, specific recordkeeping requirements under the NESHAP for Halogenated Solvent Cleaning are provided.

Monthly records of the quantity of solvent processed in the solvent cleaning machines will be required to ensure that the annual limit is not exceeded. The permittee will monitor the annual VOC emissions by calculating and recording on a monthly basis the VOC emissions from the cleaning machines. The permittee is required to maintain an MSDS for each solvent.

The following recordkeeping requirements are reiterated from the NESHAP for Halogenated Solvent Cleaning. The following information must be recorded for the vapor degreaser:

(a) The dates and amounts of solvent that were added to the solvent cleaning machine;

(b) The solvent composition of any wastes removed from the cleaning machine (as determined using the procedures specified in §63.465(c)(2)); and

(c) Calculation sheets showing how monthly emissions and the rolling three-month average emissions from the solvent cleaning machine were determined, and the results of all calculations.

There is no monitoring required for compliance with the visible emission standard (9 VAC 5-50-80) since the solvent cleaning machines will not result in visible emissions.

Testing

The permit does not require any source tests.

Reporting

Condition 44 of the MNSR Permit reiterates the requirements of 40 CFR §63.468(g) and (h). These regulations specify the submission of semiannual reports occurring every six months from the date of the notification of compliance status that identify the following, as applicable:

(a) if the vapor degreasers have not been in compliance with Subpart T, then a statement explaining the reason(s) for the exceedance and a description of the corrective action(s) taken.

(b) the size and type of each vapor degreaser unit (annual report only);

(c) the average monthly solvent consumption (in kilograms per month) for each solvent cleaning machine for the preceding twelve-month reporting period (annual report only);

(d) for each machine, the three-month monthly rolling average solvent emission estimates calculated each month for the preceding twelve-month reporting period (annual report only); and

(e) a statement of compliance signed by a responsible company official certifying that the facility is in compliance with all applicable requirements of 40 CFR §63, Subpart T.

In accordance with the NESHAP for Halogenated Solvent Cleaning, the semi-annual reports

shall be submitted by January 30 (annual report) and July 30 of every year for the respective reporting periods of July 1 through December 31 and January 1 through June 30.

SECTION VIII. - EMISSION UNIT APPLICABLE REQUIREMENTS: Sparging Operations [EU-06]

Limitations

The following applicable process and operational limitations are from Conditions 11, 26, 27 and 31 of the July 14, 2011 MNSR Permit No. 40743. These limitations were set in the current permit for the purpose of satisfying state BACT requirements.

Condition 11: Fugitive VOC emissions are controlled by following certain work practices.

Condition 26: Limits the amount of solvent processed in the sparging operations to more than 2.8 tons per year.

Condition 27: Limits the VOC emissions from the sparging operations to no more than 1.8 tons per year.

Condition 31: Establishes the requirements for using alternative HAP solvents in the sparging operations.

The visible emission standard (9 VAC 5-50-80) is not applicable to the sparging operations since this process will not result in visible emissions. The solvent-wet energetic materials ("lacquers") and metal powders are prepared for use by stripping the solvent with nitrogen gas.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 40 of the MNSR permit have been modified to meet Part 70 requirements.

Monthly records of the quantity of solvent sparged will be required to ensure that the annual limit is not exceeded. The permittee will monitor the annual VOC emissions by calculating and recording on a monthly basis the VOC emissions due to the sparging of various solvents. The permittee is required to maintain an MSDS for each solvent.

The permittee will keep appropriate records for an alternative HAP solvents used in the sparging operations.

There is no monitoring required for compliance with the visible emission standard (9 VAC 5-50-80) since the sparging operations will not result in visible emissions.

Testing

The permit does not require any source tests.

Reporting

There is no emission unit-specific reporting for the sparging operations. (The permittee must provide notification to the DEQ of any HAP substitutions at EU-06.)

SECTION IX. - EMISSION UNIT APPLICABLE REQUIREMENTS: PM-Emitting Process Equipment [EU-07 through EU-11]

The PM-emitting equipment consists of the following sources:

Oxidizer grinders [EU-07];

Grit blast machines [EU-08];

Propellant machining operations [EU-09];

Insulation machining operations [EU-10]; and

Phenolic and rubber parts machining operations [EU-11].

Limitations

The following applicable process and operational limitations are from Conditions 12, 13 and 14 of the July 14, 2011 MNSR Permit No. 40743. These limitations were set in the current permit for the purpose of satisfying state BACT requirements.

Condition 12: Requires operation of an appropriate dust collection system on each of the aforementioned sources (with the exception of the propellant cut-back saw (EU-09)). Each system must have a control efficiency of 95% or greater. Particulate emissions from the cut-back saw associated with the propellant machining operations (EU-09) are controlled using wet suppression.

Condition 13: Each dust collection system that is vented to the atmosphere (with the exception of the propellant cut-back saw (EU-09)) must be equipped with a device to continuously measure the differential pressure change across the filter. The monitoring device shall be installed, maintained, calibrated, and operated in accordance with approved procedures that shall include, as a minimum, the manufacturer's written requirements or recommendations. The monitoring device shall be provided with adequate access for inspection and shall be in operation when the emission unit is operating.

Condition 14: The control monitoring device used to continuously measure differential pressure change across the filter shall be observed by the permittee with a frequency of not less than once per day when the emission unit is in operation. The permittee shall keep a log of the observations.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 14 of the MNSR permit have been modified to meet Part 70 requirements.

The differential pressure change across each filter will be recorded daily, whenever the equipment is in operation. The permittee will keep a log of these measurements.

Testing

The permit does not require any source tests.

Reporting

There is no emission unit-specific reporting for the PM-emitting process equipment.

SECTION X. - INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-720.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation[1] (9 VAC _)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
IS-01	Nitramines, explosives and oxidizer grinding operations (vented internally)	Not Applicable (N/A)	No emissions	500 lbs/hr
IS-02	Inert ingredient preparation and screening operations (vented internally)	N/A	No emissions	500 lbs/hr
IS-03	Propellant mixing, casting and curing operations	5-80-720 B.2	PM and VOCs	4,500 lbs/batch
IS-04	Propellant machining operations (vented internally)	N/A	No emissions	250 lbs/hr
IS-06	Liner mixing and spraying operations	5-80-720 B.2 and B.5	VOCs and HAPs	75 lbs/hr
IS-07	Motor case X-ray unit (Linatron or equivalent)	5-80-720 B.2 and B.5	VOCs and HAPs	1 lb/hr
IS-FC-03	Diesel-fired emergency generator	5-80-720 C.4.b	PM, VOCs, SO_2, NO_2, CO	459 hp
IS-FC-04	Diesel-fired emergency generator	5-80-720 C.4.b	PM, VOCs, SO_2, NO_2, CO	20 hp
IS-A-01	Gasoline AST	5-80-720 B.2	VOCs	1,000 gallons
IS-A-02	Diesel fuel AST	5-80-720 B.2	VOCs	1,000 gallons
IS-A-03	Fuel Oil Storage Tank	5-80-720 B.2	VOCs	300 gallons
	Ethylene glycol			Various tank

Emission Unit No.	Emission Unit Description	Citation[1] (9 VAC _)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
IS-A-04	storage tanks	5-80-720 B.2	VOCs	capacities (150 to 1,000 gallons)
IS-08	Air Facility (ancillary equipment only – propane and TEB tanks)	5-80-720 B.2	VOCs	Various tank capacities (8 pounds to 1,000 gallons)
IS-09	R&D-related propellant combustion testing equipment	5-80-720 B.1, B.2 and B.5	PM, VOCs and HAPs	20 lbs/hr
IS-10	Adiprene mixing operations	5-80-720 B.2 and B.5	VOCs and HAPs	1 gal/hr
IS-11	Composites operations	5-80-720 B.2 and B.5	VOCs and HAPs	1 gal/hr
IS-12	Foam blowing operations	5-80-720 B.2 and B.5	VOCs and HAPs	1 gal/hr
IS-13	Grit blasting operations (vented internally)	N/A	No emissions	50 lbs/hr
IS-14	Propellant extruding operations	5-80-720 B.2	VOCs	50 lbs/hr
IS-15	Phenolic and rubber parts molding operations	5-80-720 B.1 and B.2	PM and VOCs	100 lbs/hr
IS-16	Insulation bake-out oven (Lindberg unit or equivalent)	5-80-720 B.2 and B.5	VOCs and HAPs	100 lbs/hr
IS-17	Miscellaneous curing ovens and autoclaves	5-80-720 B.2 and B.5	VOCs and HAPs	100 lbs/hr per unit
IS-18	Propellant R&D activities	5-80-720 B.2 and B.5	VOCs and HAPs	1 gal/hr
IS-19	Magnaflux machines (or equivalent)	5-80-720 B.2	VOCs	1.0 gal/hr per unit
1S-20	Miscellaneous vacuum ovens and autoclaves	5-80-720 B.2 and B.5	VOCs and HAPs	100 lbs/hr per oven
IS-21	“PSRE” flushing unit	Per DEQ	Ozone-depleting chemical	150 gallons
IS-22	Motor case soak-out operations	5-80-720 B.2 and B.5	VOCs and HAPs	10 gal/hr
IS-23	Metalworking operations (vented internally)	N/A	No emissions	500 lbs/hr
IS-24	Scramjet rocket engine tests	5-80-720 B.3	CO	35 lbs/test

Emission Unit No.	Emission Unit Description	Citation[1] (9 VAC _)	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
IS-25	Propane Fired Inert Verification Oven	5-80-720 B.1	NOx	0.5 MMBtu/hr
IS-26	Propane Tank	5-80-720 B.2	VOC's	1,000 gallons
IS-27	Ramjet rocket engine testing (using JP-10)	5-80-720 B.1, B.2 and B.3	PM, VOC's, SO_2, NO_2, CO	60 gal/hr 1,000 gal/yr
IS-28	Parts Washer Units for General Maintenance	5-80-720 B.2	VOC's	One 20 Gallon One 35 Gallon
IS-29	C4 Rocket motor testing w/asbestos impregnated rubber insulation	5-80-720 B.1 and B.5	PM-10, HAP's	0.5 lb/unit of insulation, 12 rocket motors per year
IS-30	Ramjet rocket engine testing (using JP-7)	5-80-720 B.1, B.2 and B.3	PM, VOC's, SO_2, NO_2, CO	60 gal/hr 1,000 gal/yr
IS-31	Ramjet/Scramjet rocket engine testing (Using Hydrogen gas)	5-80-720 B.3	CO	200 lbs/hr 2,000 lbs/yr
IS-32	Long-Range rocket motors with turbojet engines (using JP-4)	5-80-720 B.1, B.2 and B.3	PM, VOC's, SO_2, NO_2, CO	60 gal/hr 1,000 gal/yr
IS-33	Rocket motor tests (using HAN)	5-80-720 B.1	NO_2	5 lbs/hr 300 lbs/yr
IS-34	Ingredient preparation booth for R&D propellant formulations	5-80-720 B.1, B.4 and B.5	PM10, Lead, HAPs	10 lb/hr, 1,000 lb/yr
IS-35	Nitramines, explosives and oxidizer grinding operations (vented to the atmosphere)	5-80-720 B.1	PM	20 lb/hr

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

SECTION XI. - INAPPLICABLE REQUIREMENTS

In their application, Aerojet identified the following regulatory citations as inapplicable to their Orange County facility that might otherwise appear to be potentially applicable:

9 VAC 5-80-360 to 5-80-705: *Acid Rain Source Provisions* - Aerojet does not own or operate any equipment which is subject to the acid rain provisions contained in Title IV of the federal CAAA.

40 CFR Part 60, Subpart Kb: *Standards of Performance for Volatile Organic Liquid Storage Vessels (including for Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984* - NSPS Subpart Kb does not apply to tanks with design capacity of less than 75 cubic meters (19,811 gallons). Currently, Aerojet operates one gasoline storage tank (1,000 gallon storage capacity) one diesel fuel storage tank (1,000 gallon storage capacity) and one fuel oil storage tank (300 gallon storage capacity).

40 CFR Part 61, Subpart D: *National Emission Standard for Beryllium Rocket Motor Firing* - This standard applies to rocket motor test sites for which static firing of a beryllium rocket motor and/or the disposal of beryllium propellant is conducted. The rocket motors manufactured and tested at Aerojet's Orange County facility do not contain beryllium. Also, no waste propellant thermally treated at the Orange County facility contains beryllium.

40 CFR Part 61, Subpart M: *National Emission Standard for Asbestos* - Establishes standards for asbestos mills, roadways, manufacturing, demolition and renovation, spraying, fabricating, insulating materials, waste disposal activities, waste disposal sites, and conversion operation. Although Aerojet does add a gasket (purchased and pre-manufactured) containing non-friable asbestos material to its rocket motor assembly, such activity does not meet any of the Subpart M definitions for manufacturing, fabricating, spraying or insulating materials identified in the subpart. In the future, Aerojet will comply with all applicable regulatory provisions of 40 CFR §61, Subpart M, if and when any asbestos-containing materials that are subject to the NESHAP for Asbestos are processed at the plant, and/or if any demolition or renovation activities involving asbestos-containing materials are performed.

40 CFR Part 63, Subpart T: *National Emission Standards for Halogenated Solvent Cleaning* - Does not apply to hand-wipe cleaning activities (EU-03), such as using a rag containing a named halogenated solvent (i.e., methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, or chloroform) or a spray cleaner containing a named halogenated solvent. However, Subpart T is applicable to the solvent cleaning machines (EU-05) at the Orange County facility.

40 CFR Part 63, Subpart PPPPP: *NESHAP for Engine Test Cells/Stands* - Does not apply to existing, new or reconstructed test cells/stands used for testing rocket engines.

9 VAC 5-80-1700 through 9 VAC 5-80-1970 and 40 CFR Part 52, §52.21: Standards for Prevention of Significant Deterioration - Facility's potential-to-emit for criteria pollutants does not exceed the 250 tons/year regulatory threshold for classification as a "major stationary source."

40 CFR Part 63, §63.6(e) and other requirements in Subpart A pertaining to: *Startup, Shutdown, and Malfunction (SSM) Plans*. Per 40 CFR Part 63, Subpart GG, §63.743(b), an SSM Plan is not required for the spray paint booth (EU-02) since the dry particulate filter system is operated in accordance with manufacturer's instructions. Per 40 CFR Part 63, Subpart T, Appendix B, the procedures specified in the NESHAP supersede the requirements for an SSM Plan for the solvent cleaning machines (EU-05).

40 CFR Part 63, Subpart GG: *Aerospace MACT Requirements for Primer and Topcoat Application Operations* - Per §63.741(f), *specialty coatings* are exempt from the NESHAP control requirements.

40 CFR Part 63, Subpart GG: *Aerospace MACT Requirements for Hand-Wipe Cleaning Operations* - Per §63.744(e), hand-wipe cleaning activities performed prior to adhesive bonding are exempt from the NESHAP control requirements.

40 CFR Part 63, §63.748: *Standards for Handling and Storage of Waste* - Facilities which produce a HAP containing waste which is classified and treated as a hazardous waste under the Resource Conservation and Recovery Act (RCRA) are exempt from this standard. Aerojet's waste storage and handling operations are regulated under RCRA.

40 CFR Part 68: *Chemical Accident Prevention Provisions* – A Federal Register Notice (63 FR 645) dated January 6, 1998 deleted the category of Division 1.1 explosives (as listed by DOT) from §68.130, effectively eliminating the requirement to prepare a Risk Management Plan under Subpart G. Aerojet does utilize other substances listed under §68.130, but in quantities less than the applicable regulatory thresholds. In the future, Aerojet will comply with all applicable provisions of 40 CFR §68, if and when a regulated toxic or flammable substance is processed at the Orange County facility in a quantity that exceeds the appropriate threshold.

40 CFR Part 82, Subpart B: *Servicing of Motor Vehicle Air Conditioners* - Does not apply to any person performing service on a motor vehicle for non-commercial purposes. Aerojet personnel service and/or repair the air conditioning units of motor vehicles that are operated at the facility. However, Aerojet does not obtain cash, credit, goods or services for conducting such activities.

9 VAC 5-50-80: *Standards for Visible Emissions* - The visible emission standard is not applicable to the RTF. On October 21, 2001, the Department issued a variance (9 VAC 5-220) from the opacity standard for the test facility. The variance was subsequently transferred from ARC to Aerojet upon the change of ownership of the Orange County facility.

Furthermore, the visible emission standard is also not applicable to the TTF. This source operates in accordance with the emission standards for permissible open burning (9 VAC 5-40-5630). This regulation does not include a visible emission standard.

Finally, this rule does not apply to any surface coating and adhesive application operations performed by hand (EU-02), the hand-wipe cleaning operations (EU-03), the explosives drying operation (EU-04), the solvent cleaning machines (EU-05) or the sparging operation (EU-06) since these activities are not sources of visible emissions.

SECTION XII. - GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal Operating Permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations (including those caused by upsets) from permit requirements that may cause excess emissions for more than one hour, within four daytime business hours.

SECTION XIII. - STATE ONLY APPLICABLE REQUIREMENTS

The following Virginia Administrative Codes have specific requirements only enforceable by the State and have been identified as applicable by the applicant:

9 VAC 5-50-130 through 5-50-150: Standards of Performance for Odorous Emissions

9 VAC 5-50-160 through 5-50-230: Standards of Performance for Toxic Pollutants

EMISSION UNIT APPLICABLE REQUIREMENTS: Facility-Wide Requirements

Limitations

The following Virginia Administrative Code that references specific emission requirements has been determined to be applicable:

9 VAC 5-60-90, 100, 110: These sections incorporate (by reference) EPA's National Emission Standards for Hazardous Air Pollutants for Source Categories (40 CFR Part 63). Aerojet's Orange County Facility is subject to 40 CFR Part 63, Subpart GG, National Emission Standards for Aerospace Manufacturing and Rework Facilities (Aerospace MACT). All applicable limitations from the Aerospace MACT have been included in the permit. The General Provisions of 40 CFR 63 Subpart A (as identified in Table 1 to Subpart GG) also apply to the source. Some recordkeeping and reporting requirements of Subpart A and Subpart GG apply facility wide as described below in the respective sections.

Aerojet's Orange County facility is also subject to 40 CFR Part 63, Subpart T, National Emission Standards (NESHAP) for Halogenated Solvent Cleaning. All applicable limitations from said NESHAP have been included in the permit. The General Provisions of 40 CFR 63 Subpart A (as identified in Appendix B to Subpart T) also apply to the source. Some recordkeeping and reporting requirements of Subpart A and Subpart T apply facility-wide as described below in the respective sections.

Monitoring

The Aerospace MACT was first proposed June 6, 1994. Under EPA's September 15, 1998 guidance, Periodic Monitoring Guidance for Title V Operating Permits Program, any monitoring required in new standards proposed under the authority of Section 112 NESHAP after November 15, 1990, satisfies the 40 CFR Part 70 periodic monitoring requirements. All applicable monitoring from the Aerospace MACT have been incorporated into the permit.

Similarly, the NESHAP for Halogenated Solvent Cleaning was first proposed on March 31, 1993. Therefore, any monitoring required in the standard satisfies the 40 CFR Part 70 periodic monitoring requirements. All applicable monitoring provisions from the NESHAP for Halogenated Solvent Cleaning have been incorporated into the permit.

Recordkeeping

40 CFR §63.752(a), §63.753(a)(1) and §63.467 require the facility to fulfill all recordkeeping requirements specified in §63.10 (a), (b), (d), and (f), which are summarized below:

§63.10(a): *Applicability and general information*. This section contains no specific requirements that are currently applicable to Aerojet's Orange County facility.

§63.10(b): *General recordkeeping requirements*. Requires files of all required information (including reports and notifications) to be recorded in a form suitable and readily available for review. The files shall be retained for at least 5 years (most recent 2 years on-site, other 3 years may be retained off-site) following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

Requires maintenance of records of the occurrence and duration of each startup, shutdown, or malfunction of operation (i.e. process equipment).

§63.10(d): *General reporting requirements*. This section contains no specific requirements that are currently applicable to Aerojet's Orange County facility.

§63.10(f): *Waiver of recordkeeping or reporting requirements.* This section contains no specific requirements that are currently applicable to Aerojet's Orange County facility.

Testing

Based on the current configuration and operation of Aerojet's Orange County facility, there are no performance testing requirements under the Aerospace MACT or the NESHAP for Halogenated Solvent Cleaning. The DEQ and the EPA have authority to require testing not included in the permit if necessary to determine compliance with an emission limit or standard.

Reporting

40 CFR §63.753(a)(1) and §63.468 requires the facility to fulfill all notification requirements contained in §63.9(a) through (e) and (h) through (j), which are briefly described below:

§63.9(a): *Applicability and general information*. This section contains no specific requirements that are currently applicable to Aerojet's Orange County facility.

§63.9(b): *Initial notification of MACT applicability*. Aerojet (formerly ARC) fulfilled this requirement with notifications dated December 20, 1995 (Attachment C) and August 24, 1995 (Attachment E).

§63.9(c): *Request for extension of compliance*; not applicable (no extension requested).

§63.9(d): *Special compliance requirements*; not applicable

§63.9(e): *Notification of intention to conduct a performance test* at least sixty calendar days before the performance test is scheduled to begin; not applicable.

§63.9(h) & §63.753(b)–(e): *Notification of compliance status (NOCS)* - Report submitted before the close of business on the 60th day following the completion of the relevant compliance demonstration activity specified in the relevant standard. Based on the current configuration and operation of Aerojet's Orange County facility, there are no specific compliance demonstrations (e.g., performance testing, visible emission observations, etc.). §63.749 specifies September 1, 1998 as the date by which compliance with the requirements of the Aerospace MACT shall be made. Therefore, for Aerojet (formerly ARC), the first "compliance demonstration" occurred with the semiannual reporting period from September 1, 1998 to February 28, 1999. Thus, the first NOCS report was due on or before May 1, 1999. Aerojet's (formerly ARC's) initial NOCS is dated April 28, 1999, and is included as Attachment D. Semi-annual compliance reports shall be submitted by May 1 and November 1 of every year for the respective reporting periods of September 1 through February 28 (29) and March 1 through August 31.

Similarly, §63.460(d) specifies December 2, 1997 as the date by which compliance with the requirements of the NESHAP for Halogenated Solvent Cleaning shall be made. Per §63.468(e), the NOCS for Aerojet (formerly ARC) was due 150 days later or May 1, 1998. The initial report is dated April 30, 1998, and is included as Attachment F. Semi-annual compliance reports shall be submitted by January 30 (annual report) and July 30 of every year for the respective reporting periods of July 1 through December 31 and January 1 through June 30.

§63.9(i): *Adjustment to time periods or postmark deadlines for submittal and review of required communications*. This section contains no specific requirements that are currently applicable to Aerojet's Orange County facility.

§63.9(j): *Change in information already provided*. This section contains no specific requirements that are currently applicable to Aerojet's Orange County facility.

Streamlined Requirements

Although included in Table 1 to Subpart GG, the following requirements of the Aerospace MACT and the MACT General Provisions have not been included in permit conditions for the reasons provided:

§63.6(c) and §63.749(a): *Compliance dates for existing sources no later than three years after the effective date of such standard or September 1, 1998*. Based on the initial NOCS report dated April 28, 1999, Aerojet's current affected operations are in compliance with the relevant standards under the Aerospace MACT.

§63.9(b) and part of §63.753(a)(1): *Initial notification of MACT applicability for existing sources by September 1, 1997*. Aerojet (formerly ARC) provided the initial notification of MACT applicability for its existing operations in a letter dated December 20, 1995.

Although included in Appendix B to Subpart T, the following requirements of the Halogenated Solvent Cleaning NESHAP and the NESHAP General Provisions have not been included in

permit conditions for the reasons provided:

§63.6(c) and §63.460(d): Compliance dates for existing sources no later than three years after the effective date of such standard or December 2, 1997. Based on the initial NOCS Report dated April 30, 1998, Aerojet's current affected operations are in compliance with the relevant standards under the Halogenated Solvent Cleaning MACT.
§63.9(b) and part of §63.468(a): Initial notification of MACT applicability for existing sources by August 29, 1995. Aerojet (formerly ARC) provided the initial notification of MACT applicability for its existing operations in a letter dated August 24, 1995.

(Note: The solvent cleaning machines were relocated from a plant located in Gainesville, Virginia to the Orange County facility. The initial notification of MACT applicability and the initial NOCS for this equipment were filed by Atlantic Research Corporation for the Gainesville site.)

FEDERAL ONLY ENFORCEABLE REQUIREMENTS

The Commonwealth of Virginia has not accepted delegation of the following applicable requirements which are required under the federal Clean Air Act and/or any of its applicable federal requirements:

1. 40 CFR 60 Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines; and

2. 40 CFR 63, Subpart ZZZZ: National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

Authority to enforce these standards is retained by EPA. They are not incorporated by reference into the Virginia regulations.
(40 CFR 60, Subpart IIII and 40 CFR 63, Subpart ZZZZ)

FUTURE APPLICABLE REQUIREMENTS

None of the pending NESHAPs for Source Categories are believed to be potentially applicable to Aerojet. The company will determine the applicability of a particular MACT Standard to its operations at the time when the regulation is promulgated. If subject, then Aerojet will comply with all applicable requirements of the scheduled NESHAPs for Source Categories upon their effective dates.

COMPLIANCE PLAN

No compliance plan is necessary for inclusion of this initial Title V Operating Permit.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. Therefore, all portions of the Title V permit application are suitable for public review.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was placed in the DRAFT edition of the *Free Lance Star*. The *Free Lance Star* is published daily and is the local newspaper of general circulation in the area where Aerojet is located. By this notice, public comments were accepted from DRAFT through DRAFT. A copy of the notice information was maintained in the DEQ's Fredericksburg Office throughout the comment period and is currently maintained in the source Title V files. Additionally, the information contained in the official public notice was sent to the following persons for the stated purposes:

1. DEQ's Bill Hayden for posting on the DEQ's website.
2. DEQ's Cindy Berndt for publishing in the *Virginia Register*.
3. David Mummert, contact for the affected State of Maryland, in accordance with 9 VAC 5-80-290 B.
4. All persons on DEQ's current Mailing List, in accordance with 9 VAC 5-80-270 B.
5. US EPA Region III's Sharon McCauley for review and comment.

No comments were received regarding the draft permit.

ATTACHMENT A

MINOR NEW SOURCE REVIEW PERMIT
(DATED JULY 14, 2011)

ATTACHMENT B

CALENDAR YEAR 2010 EMISSIONS STATEMENT (DATED)

ATTACHMENT C

INITIAL NOTIFICATION OF AEROSPACE MACT APPLICABILITY (DATED DECEMBER 20, 1995)

ATTACHMENT D

INITIAL NOTIFICATION OF COMPLIANCE STATUS REPORT FOR AEROSPACE MACT (DATED APRIL 28, 1999)

ATTACHMENT E

INITIAL NOTIFICATION OF APPLICABILITY OF NESHAP FOR HALOGENATED SOLVENT CLEANING (DATED AUGUST 24, 1995)

ATTACHMENT F

INITIAL NOTIFICATION OF COMPLIANCE STATUS REPORT FOR HALOGENATEDCLEANING SOLVENT NESHAP (DATED APRIL 30, 1998)